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## LESSON 6

### SPACE OPERATIONS

*Space Power: That portion of aerospace power that exploits the space environment for enhancement of **terrestrial forces** and for the protection of combat power to, in, and from space to influence **terrestrial conflict**.*

--Air Force Manual 1-1

#### Introduction

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##### **Purpose**

This lesson explains

wWho is responsible for space operations

wHow SPACECOM provides support to Joint Forces and how a Marine Expeditionary Force (MEF) can access that support

wU.S. space doctrine and how commanders can best use space forces to leverage combat power in the joint environment

wThe factors that limit space forces and their operations

wThe four functional areas of space operations that are envisioned to support Marine Air-Ground Task Force (MAGTF) operations in the 2010 timeframe

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##### **Why Study Space Operations?**

wToday we are increasingly reliant upon our space capabilities as force multipliers which complement and enhance the warfighting capabilities of our land, sea, air, and space operations.

wSpace forces and assets have become fundamental to modern military operations.

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## Introduction, Continued

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### **Relationship to Other Instruction**

This lesson

wHighlights space forces and their capabilities which are essential for the successful execution of U.S. national security strategy and national military strategy

wLinks previous instruction received from *Strategic Level of War* (8802) with operational planning considerations presented during *Warfighting From the Sea* (8804 through 8808) and *Operations Other Than War (OOTW)* (8809)

wEmphasizes the increased reliance upon space systems at the operational and tactical level

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### **Study Time**

This lesson, including the issues for consideration, requires about 4 hours of study.

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## Educational Objectives

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| <b>Operations</b>   | Understand who is responsible for space operations. [JMPE Area 1(c)]  |
| <b>Support</b>  | Understand how SPACECOM provides support to joint forces and how a MEF can access that support. [JPME Areas 1(a) and 5(b)]  |
| <b>Doctrine</b>   | Appraise U.S. space doctrine and understand how commanders can best use space forces to leverage combat power in the joint environment. [JPME Areas 2(b), 3(a), 5(b), and 5(d)] |
| <b>Limitations</b>  | Understand the factors that limit space forces and their operations. [JPME Area 1(a)]   |
| <b>Functional Areas</b>                                       | Understand the four functions areas of space operations that are envisioned to support MAGTF operations in the 2010 timeframe.  |
| <b>JMPE Areas/<br/>Objectives/Hours<br/>(accounting data)</b> | 1/a/1.0<br>1/c/0.5<br>2/b/0.5<br>3/a/0.5<br>5/b/0.5<br>5/d/1.0  |

## Discussion

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### **A New Dimension**

Throughout history, military commanders have sought the tactical advantages of the high ground. Whether it was a hilltop, fighting top, or aircraft, the advantages of height are clear. The ultimate high ground is space. In the last half-century, technological developments have made it possible to take advantage of this new dimension.

### **Modern Military Operations**

Space is critical to modern military operations. Satellites aid military units tremendously by providing instantaneous communications, precise navigation, and unparalleled surveillance support. Satellites also provide exceptional weather coverage. Ballistic missiles use the limitless vacuum of space to travel to their targets. In the near future, space may be the arena for strategic missile defense as well.

Space is a dimension like no other. Beyond the narrow confines of the earth's atmosphere, space is proximal to every place on earth. From space, any spot on the earth is as accessible as others. Like the open sea, space does not fall within any single country's boundaries. Unlike the sea, however, space is not governed by centuries of codified law and customary usage.

### **Advantage**

The use of space is limited to the few countries who have the wealth, will, and technology to assess it. With the demise of the Soviet Union, the United States has the clear advantage, now and for the foreseeable future. In many ways, space is the ideal media for the U.S. to exploit its technological advantages to enhance its global influence and protect its national security.

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### **Combatant Commanders**

Our nation's geographical combatant commanders (CINCEUR, CINCPAC, CINC SOUTH, CINCCENT, USACOM) cannot achieve their strategic goals without the leverage provided by the functional combatant commanders (CINCTrans, CINCSpace, CINCSOC, CINCSTRAT).

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## Discussion, Continued

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### SUPPORT RELATIONSHIPS

While functional combatant commanders conduct operations in direct support of the National Command Authorities, their support to the geographic combatant commanders is absolutely essential. The support relationships between these joint force commanders requires careful attention to ensure integration and synchronization.

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#### Space Forces

Space forces and assets have become fundamental to modern military operations. They play a central role in the ongoing revolution in warfare because of their unique capabilities for gathering, processing, and disseminating information.

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#### Space Systems

As demonstrated during Operation *Desert Storm*, space systems can directly influence the course and outcome of war. For example, space systems help confer a decisive advantage upon coalition forces in terms of combat timing, operational tempo, synchronization, maneuver, and the integrated applications of firepower.

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#### Summary

Today, we are increasingly reliant upon our space capabilities as force multipliers which complement and enhance the warfighting capabilities of our land, sea, air, and special operations forces.

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## Required Readings

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***Joint  
Multinational  
Operations  
Readings***

wEstes, Howell M. III (Gen, USAF). "Space and Joint Space Doctrine." *Joint Force Quarterly*. Winter 1996 through 1997, pp. 60 through 63. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-3 to D-6. Written as General Howell was commander in chief, U.S. Space Command, this is an assessment of the status of progress in providing principles and a framework for comprehending and integrating international space capabilities. Joint doctrine must consider protecting our space capabilities, both civilian and military. This way space can be kept free from potential enemy dominance, a threat that becomes greater all the time.

wAFSC Pub 1, pp. 2 -29 and 2-37. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-7 to D-8. The first page is a table of organization for the "unified command organization" and the second page shows the command relationships of the U.S. Space Command including the USSPACECOM JOINT STAFF ORGANIZATION.

wPerry, William J. "Space Forces." *Annual Report to the President and Congress, Secretary of Defense William J. Perry*. February 1995, pp. 243 through 248. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-9 to D-15. Space forces are vital for U.S. national security strategy and national military policy. As we have downsized the military, space forces have become a comparative national advantage of the United States and allowed us to contribute to global security through major DoD space programs.

wKelly, Ricky B. *Centralized Control of Space: The Use of Space Forces By a Joint Commander*. School of Advanced Airpower Studies, 1994, pp. 9 through 38. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-17 to D-45. This is a thesis presented to the faculty of the School of Advanced Airpower Studies for completion of graduation requirements. The first part describes the problem of the complex array of DoD and national space organizations which results in different and sometimes uncoordinated control systems. Planning becomes very difficult like the case in the Gulf War. However, there were lessons learned and three initiatives proposed to incorporate space into military operational plans.

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## Required Readings, Continued

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***Joint  
Multinational  
Operations  
Readings,  
continued***

wCourter, Jim, et. al. "Military Space Policy: The Critical Importance of New Launch Technology." *Strategic Review*, Supplement: Monday, August 22, 1994, pp. 233 through 242. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-47 to D-56. Despite vast expenditures, the government has allowed U.S. launch capabilities to stagnate and deteriorate to a point where they can no longer compete with those of other nations. This has become a *de facto* policy decision to forgo U.S. competition in the international space launch marketplace. Also, there have been budget cutbacks. These problems must be overcome.

wWork, Robert O. (Lt Col ). *MAGTF Space Operations*: 2010. Find this reading in the *Joint Multinational Operations Readings*, Annex D, pp. D-57 to D-80. This annex discusses the types and contributions of space operations. It seeks to explore ways in which space systems and operations could be used to gain and maintain a decisive edge in combat, and ways to stimulate the development of new MAGTF space support concepts.

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## For Further Study

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### Supplemental Readings

The readings listed are **not** required. They are provided as recommended sources of additional information on lesson topics that may interest you. They will increase your knowledge and understanding of this lesson.

wJoint Pub 0-2, *United Action Armed Forces*.

wJoint Pub 1, *Joint Warfare of the Armed Forces of the United States*.

wJoint Pub 3-0, *Doctrine for Joint Operations*.

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## Issues for Consideration

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**Space Operations** Who is responsible for space operations?

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**Joint Doctrine** What is the current joint doctrine on space operations?

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**SPACECOM** What are some examples of how SPACECOM supports JTFs in the field?

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**Limiting Factor** With an increasing dependence upon space-based systems and technology, what appears to be the greatest limiting factor of U.S. space forces?

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**Functional Areas** What are the four functional areas of space operations that could be envisioned to support MAGTF operations in 2010?